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09/876,530	06/07/2001	Kaneo Watanabe	10449-036001	7594

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EXAMINER

ELMORE, STEPHEN C

ART UNIT	PAPER NUMBER
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2186

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DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/876,530

Applicant(s)

WATANABE ET AL.

Examiner

Stephen Elmore

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8,13 and 14 is/are rejected.
- 7) ☒ Claim(s) 4,5 and 9-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2186

DETAILED ACTION

1. Claims 1-14 are presented for examination.
2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
 - a. in claims 1-5 -- "controller";
 - b. in claim 2 -- "the control circuit";
 - c. in claims 13 and 14 -- "...mounted on a single LSI".

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under MPEP § 608.02(d) because they fail to show the following features as described in the specification.

Art Unit: 2186

a. page 7, lines 14-16, "a switching signal is preferably provided to the selector 15 via a switching signal input terminal C that is an external terminal of a controller LSI"

b. page 10, line 12, "controller LSI";
i.e., no controller LSI is shown in the drawings.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing.

Specification

6. The abstract of the disclosure is objected to because:

a. in line 7, "a terminal is provided for used..." is non-idiomatic English.

Correction is required. See MPEP § 608.01(b).

7. The disclosure is objected to because of the following informalities:

a. on page 7, line 22, "grounded,." has an error in punctuation.

Appropriate correction is required.

Claim Objections

7. Claim 1 is objected to because of the following informality:

a. in line 9, the language "a terminal for used" is non-idiomatic English.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2186

9. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is indefinite because:

a. Claim 2 recites the limitation "the control circuit" in line 10, however, there is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-3, 6-8, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hu, US Patent 6,170,043.

Hu teaches the claimed controller of a system connected to a memory which operates in accordance with and stores firmware, and a data processing system connected to an external device via a connector for receiving and providing data between the external device (claims 1, 2, 6 and 8), which is taught as a system and method for controlling an optical disk, see Abstract and Summary, and Fig. 2, comprising:

As per claim 1,

a. *a data processing circuit that performs predetermined processing on data and generates processed data*, is taught, see col. 3, line 58 - col. 4, line 7;

Art Unit: 2186

b. *a write wire connected to the memory; and a terminal for use in the output of the data processed by the data processing circuit and/or the provision of the data to the data processing circuit, wherein the controller connects the write wire and the terminal to write the firmware to the memory, is taught, see col. 4, lines 8-44; and,*

As per claim 2,

c. *a first terminal for receiving and providing data between the controller and an external device, is taught, see Fig. 2, as the terminal connection between the Main Board Interface 214 and the Decoder 206, where the terminal is not explicitly shown but is inherently present in the bus represented by the line connecting these two mentioned elements of the figure;*

d. *a data processing circuit for performing predetermined processing on the data to be provided to and received from the external device via the first terminal, is taught, see Fig. 2, as the element Decoder 206;*

e. *and a firmware write wire connected to the firmware storing memory, wherein the control circuit selectively connects the first terminal and one of the data processing circuit and the firmware write wire, is taught, see Fig. 2, as functionality of the data bus 201 during the period of time that the Flash Memory 210 is being written, i.e., updated, see col. 4, lines 8-44; and,*

And as per dependent claim 3,

f. *further comprising a selector connected to the data processing circuit and the firmware write wire for selectively connecting the first terminal and one of the data processing circuit and the firmware write wire(s) in response to a switching signal, is taught, as the functionality of the microprocessor 204 to process the data of the CD-ROM in a normal mode,*

Art Unit: 2186

col. 3, lines 48-57, over the data bus 201 to the Flash Memory 210 and through the Decoder 206, and through the unlabeled bus representing a first terminal to process the data being read on the CD-ROM and output to the elements 214 and 216, to the Computer in the normal mode, and alternatively switched into the update programming mode, col. 4, lines 8-44, where the selector feature and connectivity is taught, see col. 3, lines 13-15, and 25-28, system control chip 200, as a function of the switching between the two modes, normal mode and update programming mode, in response to a switching signal which is switching between these two modes of operation; and,

As per claim 6,

g. *a memory for storing firmware*, is taught, see Fig. 2, as Flash Memory 210;

h. *and a microcomputer connected to the memory for operating in accordance with the firmware stored in the memory, wherein the firmware is written to the memory by directly connecting the memory and the connector*, is taught, see Microprocessor 204, Flash Memory 210, and the connector being inherent to the connectivity of the bus which runs between the Decoder 206 and the Main Board Interface 214;

And as per dependent claim 7,

i. *wherein the data processing system selectively switches the firmware write operation and the reception and provision of the data in response to a switching signal*, is taught, as the functionality of the microprocessor 204 to process the data of the CD-ROM in a normal mode, col. 3, lines 48-57, over the data bus 201 to the Flash Memory 210 and through the Decoder 206, and through the unlabeled bus representing a first terminal to process the data being read on the CD-ROM and output to the elements 214 and 216, to the Computer in the

Art Unit: 2186

normal mode, and alternatively switched into the update programming mode, col. 4, lines 8-44, where the selector feature and connectivity is taught, see col. 3, lines 13-15, and 25-28, system control chip 200, as a function of the switching between the two modes, normal mode and update programming mode, in response to a switching signal which is switching between these two modes of operation; and,

As per claim 8,

- j. *a memory for storing firmware*, is taught, see Fig. 2, as Flash Memory 210;
- k. *a microcomputer connected to the memory for performing control operation in accordance with the firmware stored in the memory*, is taught, see Microprocessor 204;
- l. *a data processing circuit connected to the microcomputer for performing predetermined processing on data to be provided to and received from the external device in accordance with the control of the microcomputer*, is taught, as the functionality of the microprocessor 204 to process the data of the CD-ROM in a normal mode, col. 3, lines 48-57, over the data bus 201 to the Flash Memory 210 and through the Decoder 206, and through the unlabeled bus representing a first terminal to process the data being read on the CD-ROM and output to the elements 214 and 216, to the Computer in the normal mode;
- m. *and a selector connected to the data processing circuit and the memory for selectively connecting the connector and one of the data processing circuit and the memory, wherein the firmware is written to the memory via the connector when the selector connects the connector and the memory*, is taught, as alternatively switching into the update programming mode, col. 4, lines 8-44, where the selector feature and connectivity, is taught, see col. 3, lines

Art Unit: 2186

13-15, and 25-28, system control chip 200 as a function of the switching activity between the two modes, normal mode and update programming mode; and,

And as per dependent claim 13,

n. *wherein the memory, the data processing circuit and the selector are mounted on a single LSI*, is taught, see col. 3, lines 13-15, and 25-28, system control chip 200.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu, US Patent 6,170,043 as applied to claim 8 above, and further in view of Martwick, US Patent Application Publication US 2003/0041182.

Art Unit: 2186

Hu teaches the claimed data processing system connected to an external device via a connector for receiving and providing data between the external device (claim 8), taught as a system and method for controlling an optical disk, see Abstract and Summary, and Fig. 2, as noted above, and, Hu does teach where the microcomputer, the data processing circuit and the selector are mounted on a single LSI, see col. 3, lines 13-15, and 25-28, system control chip 200, but Hu does not teach, as per claim 13,

wherein the memory, the data processing circuit and the selector are mounted on a single LSI,

and, as per claim 14,

wherein the memory, the microcomputer, the data processing circuit and the selector are mounted on a single LSI,

however, Martwick teaches a firmware updating system for updating flash memories, see page 1, para. 0004, in which the flash memories are mounted on a single LSI chip, that is taught as the host bridge chipset, see elements 120 and 126, which are configured for processing data to and from a CD-ROM, element 150, see page 2, para. 0021, and, it would have been obvious to one of ordinary skill in the art of data processing systems incorporating firmware and CD-ROM systems to incorporate the system of Martwick into the system of Hu because the mounting of flash memory, data processing circuits, microcomputer, and selector on a single LSI as taught by Hu in view of Martwick would reduce the size of the circuitry and board space containing the circuitry, since the combination would be condensed into a single unit instead of made-up of multiple units, and would therefore consume less power due to the condensing of size and be

Art Unit: 2186

more energy efficient to operate, and would also be less expensive to manufacture since there were fewer parts to assemble, and therefore, one of ordinary skill would be motivated for all of these multiple beneficial reasons to make the combination Hu in view of Martwick.

Allowable Subject Matter

15. Claims 4, 5, and 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Elmore whose telephone number is (703) 308-6256. The examiner can normally be reached on Mon-Fri from 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (703) 305-3821. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Stephen Elmore
Patent Examiner
Art Unit 2186
July 18, 2003